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EXAMINER

NEGIN, RUSSELL SCOTT

ART UNIT	PAPER NUMBER
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1631

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/761,712

Applicant(s)

HURST ET AL.

Examiner

Russell S. Negin

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/20/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election of the species of chemical structure in the reply filed on 20 December 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Consequently, claims 1-8 are examined in the current application with claim 2 being directed to a plurality of properties relating to chemical structure.

Priority

If applicant desires to claim the benefit of a prior-filed application under 35 U.S.C. 120, a specific reference to the prior-filed application in compliance with 37 CFR 1.78(a) must be included in the first sentence(s) of the specification following the title or in an application data sheet. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications.

According to 37 CFR 1.78, entitled, "Claiming benefit of earlier filing date and cross-references to other applications," section (a)(2)(iii) states:

If the later-filed application is a nonprovisional application, the reference required by this paragraph must be included in an application data sheet (§ 1.76), or the specification must contain or be amended to contain such reference in the first sentence(s) following the title.

In the instance, this case intends to claim benefit of application 09/301,811 by submitting the same declaration as in this parent case. However, the application has no application data sheet or benefit is not claimed in the first sentence of the specification. In addition, applicant in the application file specifies no relationship to the parent application.

It is noted that although the Office did recognize a claim of benefit to Application 09/301,811, applicant still must follow the guidelines set forth in 37 CFR 1.78. As stated in MPEP section 201.11 III (D):

Even if the Office has recognized a benefit claim by entering it into the Office's database and including it on applicant's filing receipt, the benefit claim is not a proper benefit claim under 35 U.S.C. 119(e) or 35 U.S.C. 120 and 37 CFR 1.78 unless the reference is included in an ADS or in the first sentence(s) of the specification and all other requirements are met.

Information Disclosure Statement

The Information Disclosure Statement filed 20 January 2004 does not contain a legible copy of each reference listed on the list of references. It is not known whether this is an error of the applicants or a scanning error by the Office. Consequently the missing references have been listed as not considered in the signed copy of the list of references attached to this Office action. If the applicants provide a legible copy of the missing references in response to this Office action, the references will be considered under 37 CFR 1.97(f), and a signed copy of the list of references indicating consideration of the missing references will be provided to the applicants without the necessity of the applicants filing a second Information Disclosure Statement.

In the instant case, the reference of Alexandrov et al. is not in the file of the instant application or the parent application.

In addition, the sources of Holliday et al. and Winkler et al. lack appropriate dates both on the sources themselves or on the information disclosure statements.

Specification

The disclosure is objected to because of the following informalities:

The following grammatical inconsistencies are noted in the specification:

The last line of page 3 states, "biological activity above a desired."

The last line of page 13 states, "at least one attribute that is common to."

The last line of page 18 states, "structures."

The first two lines of page 21 states, "Two Dimensional Representation of a Multi-Dimensional Chemistry Space."

The last word of the first line of page 25 states, "query."

The last line of page 29 states, "is now made to."

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-2, and 6-8 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In regards to claims 1-2 and 6-8, the instant claims are drawn to a database algorithm. A database algorithm is non-statutory unless the claims include a step of physical transformation, or if the claims include a useful, tangible and concrete result. It is important to note, that the claims themselves must include a physical transformation step or a useful, tangible and concrete result in order for the claimed invention to be statutory. It is not sufficient that a physical transformation step or a useful, tangible, and concrete result be asserted in the specification for the claims to be statutory. In the instant claims, there is no step of physical transformation, thus the Examiner must determine if the instant claims include a useful, tangible, and concrete result.

In determining if the claimed subject matter produces a useful, concrete, and tangible result, the Examiner must determine each standard individually. For a claim to be "useful," the claim must produce a result that is specific, and substantial. For a claim to be "concrete," the process must have a result that is reproducible. For a claim to be "tangible," the process must produce a real world result. Furthermore, the claim must be limited only to statutory embodiments.

Claims 1-2 and 6-8 do not produce a tangible result. A tangible result requires that the claim must set forth a practical application to produce a real-world result. This rejection could be overcome by amendment of the claims to recite that a result of the method is outputted to a display or a memory or another computer on a network, or by including a physical transformation.

As stated in section 2106 of the MPEP:

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more

than a Sec. 101 judicial exception, in that the process claim must set forth a practical application of that Sec. 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application."). "[A]n application of a law of nature or mathematical formula to a . . . process may well be deserving of patent protection." Diehr, 450 U.S. at 187, 209 USPQ at 8 (emphasis added); see also Corning, 56 U.S. (15 How.) at 268, 14 L.Ed. 683 ("It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted . . ."). In other words, the opposite meaning of "tangible" is "abstract."

Claim Rejections - 35 USC § 101 and 35 USC § 112

M.P.E.P. 2173.05(p) elaborates:

A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. In *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990), a claim directed to an automatic transmission workstand and the method steps of using it was held to be ambiguous and properly rejected under 35 U.S.C. 112, second paragraph. Such claims should also be rejected under 35 U.S.C. 101 based on the theory that the claim is directed to neither a "process" nor a "machine," but rather embraces or overlaps two different statutory classes of invention set forth in 35 U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only. *Id.* at 1551.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-8 are rejected under 35 U.S.C. 101 because this set of claims bridges more than one statutory class of invention. As stated in the statute of 35 U.S.C. 101, "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, **OR** any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

Since, claims 1-8 are interpretable in two different statutory classes of invention (method and apparatus), it is ambiguous as to the invention type and the set of claims is thus, rejected.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-8 can be interpreted as two invention classes (method and apparatus) and this set of claims is thus ambiguous and indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

35 U.S.C. 103 Rejection #1:

Claims 1-3 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson et al. [WO 97/27559] in view of Patterson et al. [Journal of Medicinal Chemistry, 1996, volume 34, pages 3049-3059]. The second Patterson et al. reference is referred to as Patterson et al. (1996) throughout this Office action.

Claims 1-3 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by

Claims 1-3 and 6-7 state:

1. A computer database system for organizing, associating and retrieving information where characteristics regarding entities can be inferred from the characteristics of similar entities, having at least two sets of information located on one or more databases comprising a first and a second collection of information, wherein the first collection of information is joined by a chemical similarity join with the second collection of information to create a set of joined items, wherein the items are grouped together based on a plurality of properties.
2. The system of claim 1 wherein one or more properties of the plurality of properties is selected from the group consisting of chemical structure, synthesis pathway, binding data, biological activity, structure-activity relationship information, molecular weight, partition, coefficient, electric charge, size, efficacy, toxicology, manufacturer, price, and availability.
3. The system of claim 1 wherein the resultant joined items are reported to a user of the computer program.
6. The system of claim 1 wherein the entities are biological compounds.
7. The system of claim 6 wherein the biological compounds are proteins.

In the instant specification, page 10, lines 3-10, applicants explain chemical similarity join in terms of "fuzzy similarity join:"

According to another aspect of the invention in this application, the scientist can perform a chemical similarity join (or fuzzy similarity join) to infer information about the compound of interest, based upon the characteristics of other parameters of "similar" compounds. According to

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this aspect of the invention, the chemical similarity join allows the scientist to search one or more databases to obtain information about the "similar" compounds. The scientist can use this information to infer behavior or other characteristics or parameters about the compound of interest.

Applicant explains "fuzzy similarity join" on page 13, lines 14-25 of the instant specification by stating:

We refer to the approach that allows for such retrieval and organization as a "fuzzy similarity join" in that the relationship between the retrieved information is not intuitively or organizationally related in the manner in which it is retrieved; rather, this relationship is based upon the needs of a user who would otherwise be required (if possible) to laboriously search for the required data from unrelated or dispersed data sources. Indeed, unlike a more "fixed" catalogue (whether paper or electronic based), which rigidly forces a user to obtain information in a manner specifically limited in accordance with the objective of the creator of the catalogue, the present invention allows for a "fluid" retrieval of information based upon the needs and objectives of the user. In the area of chemical searching, this approach offers a substantial advance to the art.

Consequently, a chemical similarity join, or fuzzy similarity join, connects data in more "fluid" databases based on similarities and not exact matching technique.

The invention of Patterson et al., entitled, "Method of creating and searching a molecular virtual library using validated molecular structure descriptors," uses the concept of "neighborhood properties" to identify similarities. As stated on page 20, lines 6-10 of Patterson et al.:

Specifically, the similarity principle requires that any valid descriptor must meet the similarity principle's constraint that it measure the chemical universe in such a way that similar structures (as defined by the descriptor) have substantially similar biological properties. Or stated slightly differently: within some radius in descriptor space of any given molecule possessing some biological property, there should be a high probability that other molecules found within that radius will also have the same biological property.

Patterson et al. explains Figures 1A and 1B on lines 18-23 of page 20 by stating:

Figure 1A and Figure 1B show an "island" 1 of biological activity plotted in some relevant two-dimensional molecular descriptor space. In Figure 1A the molecules 2 of a typical prior art library are plotted as hexagons. Around each hexagon a circle 3 describes the area of the metric space (the neighborhood) in which molecules of similar structural diversity to the plotted molecule would be found.

Patterson et al. continue to describe Figure 1B on lines 28-29 of page 20 by stating:

In Figure 1B the molecules 5 of a [sic] optimally designed library are plotted as stars along with their corresponding circles 3 of similar structural diversity.

In other words, in Figure 1A, Patterson et al. shows a first set of information in the form of hexagons in the center of circles with a defined similarity based on a constant radius. The second set of information is object 1 (i.e. a round two-dimensional shape that it not circular). The overlap of object 1 and the circles with hexagons is the chemical similarity join between the first and second sets of information. Likewise, Figure 1B of Patterson et al. illustrates the same principle, except the first library is more uniformly defines as stars inside of circles with a defined similarity based on a constant radius.

The operation of the reference invention on a computer system as indicated by the program on pages 110-644 of Patterson et al., entitled "APPENDIX 'A'" that generates an output (i.e. for a user).

Figure 6 of Patterson et al. illustrates chemical structure of an example biological compound that is modified using the algorithm presented in Patterson et al. In this case, the compound is a side chain (page 30 of Patterson et al. describes Figure 6). Furthermore, Patterson et al. explains the relevance of receptors (proteins at the surface of cells) in their invention on page 27, lines 17-21, which state:

Thus, alignment is hard enough when applying CoMFA to analyze a set of molecules which interact with the same biological receptor. The more difficult question is how to "align" molecules distributed in multidimensional space to create a meaningful descriptor with respect to arbitrary and unknown receptors against which the molecules will ultimately be tested.

However, it is not evident in Figures 1A and 1B of Patterson et al. that the two-dimensional space used in Figures 1A and 1B employs a plurality of properties.

To illustrate the plurality of descriptors employed in Patterson et al., the study of Patterson et al. (1996), entitled, "Neighborhood behavior: a useful concept for validation of 'Molecular diversity' descriptors" is employed.

Patterson et al. (1996) illustrates the identical figures in Figure 1 as Figures 1A and 1B in Patterson et al. with the exception of the labeled axes (i.e. Descriptor 1 is along the x axis and descriptor 2 is along the y axis). Descriptor 1 and descriptor 2, consequently, form a plurality of properties.

On the bottom two paragraphs of the first column of page 3050, Patterson et al. (1996) explains a purpose of examining multiple descriptors:

To answer these questions, we present a general method for validating molecular diversity descriptors. A key underlying feature of this validation method is explicitly considering absolute differences in, rather than magnitudes of, properties, as both the desired (dependent, biological) and known (independent, molecular diversity) parameters. If such differences are plotted, the data points will tend to concentrate in a characteristically trapezoidal "neighborhood enhancement" whenever the molecular diversity descriptor has the requisite neighborhood behavior.

By applying this validation method (reduced to a particular algorithmic implementation) to 20 datasets taken randomly from the recent literature, we rank 11 molecular diversity measurements currently in use.

In other words, examining multiple descriptors efficiently validates these measurements for comparison and ranking with known, literature values.

It would have been obvious to someone of ordinary skill in the art at the time of the instant invention to modify the neighborhood descriptor study of Patterson et al. by the use of the plurality of descriptors in Patterson et al. (1996) because Patterson et al. (1996) has the advantage of conducting an analogous study of Patterson et al.

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specifically designating the analysis of a plurality of descriptors for the purpose of more efficient and complete ranking of molecular diversity measurements.

35 U.S.C. 103 Rejection #2:

Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson et al. in view of Patterson et al. (1996) as applied to claims 1-3 and 6-7 above, and further in view of Agrawal et al. [US Patent 5,978,794].

Claims 4 and 5 claim use of a remote computer link and the Internet, respectively.

Patterson et al. in view of Patterson et al. (1996) as applied to claims 1-3 and 6-7 above, fail to teach these computerized limitations (i.e. remote computer link and the Internet).

The patent of Agrawal et al., entitled, "Method and system for performing spatial similarity joins on high-dimensional-points," states in its abstract:

A method and system are disclosed for performing spatial similarity joins on high-dimensional points that represent data objects in a database. The method comprises the steps of: generating a data structure based on the similarity distance epsilon for generating the high-dimensional points, traversing the data structure to select pairs of leaf nodes from which the high-dimensional points are joined, and joining the points from selected pairs of nodes according to a joining condition based on a similarity distance, epsilon.

Agrawal et al. states the purpose for the invention in column 2, lines 50-54:

There is thus a need for an efficient method for performing spatial similarity joins on high-dimensional points that has a short execution time, based on an efficient data structure, and does not require a large amount of storage space during the performance of the similarity joins.

Agrawal et al. continues on column 9, lines 17-35 by stating:

Using the foregoing specification, the invention may be implemented using standard programming or engineering techniques including computer programming software, firmware, hardware or any combination or subset thereof. Any such resulting program, having computer

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readable program code means, may be embodied or provided with in one or more computer readable or usable media, thereby making a computer program product, i.e. an article of readable media, according to the invention. The computer readable media may be, for instance, a fixed (hard) drive, disk, diskette, optical disk, magnetic tape, semiconductor memory such a read-only memory (ROM), etc., or any transmitting/receiving medium such as the Internet or other communication network or link. The article of manufacture containing the computer programming code may be made and/or used by executing the code directly from one medium, by copying the code from one medium to another medium, or by transmitting the code over a network.

It would have been obvious to someone of ordinary skill in the art at the time of the instant invention to modify Patterson et al. in view of Patterson et al. (1996) as applied to claims 1-3 and 6-7 above, and further in view of Agrawal et al., because Agrawal et al. has the advantage of applying analogous similarity joins for the purpose of simplifying high dimensional data on the Internet for more efficient and expeditious handling of data.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would be obvious over, the reference claim(s). see, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985).

Claims 1-3 and 6-8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,721,754. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claim of the reference is a species of the instantly rejected claims. While the instant claims specify "information," the reference employs a more specific "table" to tabulate information within a "neighborhood range." Both sources are methods (or systems) of performing chemical similarity joins on multiple databases and on multiple properties of the chemical examined. The specification contains examples of proteins (receptors; column 1 lines 50-55 of the reference patent) and genes (column 14, lines 7-15 of the reference patent) as biological molecules.

Conclusion

No claim is allowed.

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Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the central PTO Fax Center. The faxing of such pages must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CFR § 1.6(d)). The Central PTO Fax Center Number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Negin, Ph.D., whose telephone number is (571) 272-1083. The examiner can normally be reached on Monday-Friday from 7am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Irem Yucel, Supervisory Patent Examiner, can be reached at (571) 272-0781.

Information regarding the status of the application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information on the PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RSN

19 March 2007

As 3/19/07

John S. Brusca 19 March 2007
JOHN S. BRUSCA, PH.D
PRIMARY EXAMINER